



*From “Wetland Program Development Grants (WPDGs) Case Studies”  
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**California Partners:** *Developing a rapid assessment method to better monitor  
California’s coastal wetlands*

**Introduction**

Southern California coastal wetlands have been dramatically altered and, in some cases, destroyed by human activities over the past 150 years. There is an obvious need for preservation and restoration of the remaining wetland habitats. However, limited funding makes it imperative that restoration efforts be shaped by regional planning and priorities that maximize the benefit of expended resources. Establishing these priorities and developing a comprehensive wetland strategy in Southern California was historically hindered by a project-by-project focus and limited coordination of federal and state agencies. Fortunately, 17 agencies formed the Southern California Wetlands Recovery Project (WRP) in 1997 to increase the regional coordination of wetland restoration, preservation and management, and develop a regional strategy. WRP also partners with local governments, business and nonprofit organizations, all with the long-term goals of developing the tools and infrastructure necessary to build state capacity and assess the quantity and quality of wetlands and their associated resources.

Several agencies in California, not limited to WRP, collaborate in addressing wetland issues and improving the overall efficiency of the state’s wetland program. The San Francisco Estuary Institute (SFEI), Southern California Coastal Water Research Project (SCCWRP), a joint-power agency focusing on marine environmental research, and San Jose State University Moss Landing Marine Lab in conjunction with the California Coastal Commission have been the primary agencies utilizing EPA grant funds to advance recent innovations in wetland management, mapping and monitoring. However, they also work with Core Teams of state and federal agency representatives and academic scientists, which form three regional teams representing the Southern California Bight, San Francisco Bay Area and the Central California Coast to provide input on wetlands issues.

**WPDG Activity**

An initial step in any comprehensive wetland program involves assessing the resource. WPDGs have allowed these partners to develop a product with the potential for wide application throughout the state. These agencies worked together to develop the California Rapid Assessment Method (CRAM) for wetlands and EPA’s level 1-2-3 approach to aquatic resource monitoring at the regional and statewide scales. A major aspect of CRAM development involved selecting and field testing suites of visible conditions, also termed metrics, which indicate important wetland functions.

Once a complete set of metrics (indicators) were chosen, CRAM development involved three basic analytical steps for each major class of wetland. First, the metrics had to

semi-quantitatively verified based on best professional judgment of their suitability to describe wetland conditions in each geographic region (Note: CRAM initially focused on wetlands in the coastal watersheds of three regions: the San Francisco Bay Area, the Central Coast, and Southern California. The regional approach was necessary to account for the variability in wetland type, form, and function that occurs with physiographic setting, latitude, altitude, and distance inland from the coast.) Next, each wetland class had to be quantitatively calibrated using existing data to test for correlation between the metrics and levels of the highest priority functions in each geographic region. Finally, wetland classes were validated based on comparisons between CRAM results and intensive site studies (level 3) at randomly chosen sites along well-documented stressor gradients.

EPA funding for CRAM development also included support of broader wetland monitoring objectives and WRP anticipates that a regional monitoring program will help:

- Assess the regional extent/condition of wetland and riparian resources;
- Evaluate the regional impact of WRP recovery activities;
- Provide information on how better to manage stressors (from human activities);
- Streamline reporting of site-specific monitoring data to utilize results more effectively and adaptively manage recovery efforts;
- Provide a cost-effective means of addressing the management questions of WRP partners;
- Develop tools that could be used to evaluate success of wetland regulatory and management policy (e.g. compensatory mitigation); and
- Improve local and regional planning and conservation efforts.

The main goal of this multi-year project is to facilitate local agency partnerships and identify a common set of tools and infrastructure to implement a comprehensive monitoring and assessment program in each coastal region, and ultimately for the state. As such, the regions are sharing a common conceptual approach to monitoring, as well as resources and expertise to develop standardized resource-mapping methods, assessment tools (such as CRAM), data-management tools and infrastructure. The joint effort among the regional collaborators will ensure that the assessment tools will be responsive to regional issues, while also yielding results that can be understood and utilized within a statewide context. The development of a rapid wetland assessment method for California and its associated information management system will be of tremendous value in managing wetlands throughout California.

### **Current Work and Future Plans**

Version 3.0 of CRAM is completed and being calibrated through field work. Various inventories of wetland and riparian resources have also been completed throughout the three regions and core teams have assisted the state of California with ground-truthing the National Wetland Inventory maps done as part of the “statewide wetland inventory.” A state-of-the-art, GIS-based information management system is in place to track CRAM results and to integrate those results with data from wetland regulatory activities. In addition, a GIS-based map of the wetlands of the Central Coast was recently completed. Future efforts are expected to establish a statewide steering committee to expand regional

efforts. The efforts of the Core Teams and the CRAM work group have also led the State to consider using the tools developed through this project to incorporate wetlands into the existing Surface Water Ambient Monitoring Program, another critical step toward developing a truly comprehensive wetland program.

For more information about the Southern California Coastal Water Research Project, please visit the SCCWRP website (<http://www.sccwrp.org/>).

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